USPS Pricing Engine SDK

December 20, 2019

Summary

This is the Domestic and International Pricing Engine SDK (version 11.8.0.0) for the January 2020 Release. The following is a list of enhancements included in this release.

- B-379955 Add Cremated Remains requirements to Price Engine - Implement
- B-383700 BNS 1334 - Jan 2020 PC Enhanced Tracking - USPS Price Calculator Changes
- B-382733 BNS 1334 - Jan 2020 PC Enhanced Tracking - Business Calculator Changes
- B-383653 BNS 1334 - Jan 2020 PC Enhanced Tracking - Library Changes
- B-383654 BNS 1334 - Jan 2020 PC Enhanced Tracking - Database Changes
- B-383655 BNS 1334 - Jan 2020 PC Enhanced Tracking -Create Client Maps
    - Exclude 18B6, 022B6, 022P6, 022R6
- B374269 BNS 1309 - Jan 2020 PC - INTL Country Changes and/or Country Name Changes - South Sudan
- B-384313 Price Engine Mailing Date Error Message - Implement
- B-385157 BNS 1349 - Jan 2020 PC - PRC Remand FC Prices - Updated RCalc SQLs from Pricing Tool
- B-390583 - BNS 1314 - Jan 2020 PC - Change Services to Return 2 Decimal Places Instead of 5 for Prices

BNS 1314 – Jan 2020 PC - Give a SKU Get a Price

The price engine is providing a new method to identify products using a SKU, aka Stock-Keeping Unit. This interface allows the caller to specify a specific product or group of products using a 15 digit key. This capability is available for domestic and international prices. See the USPS SKU User's Guide at: https://pe.usps.com/resources/PriceChange/January%202020%20-%20USPS%20SKU%20User%20Guide.pdf.

GetPriceBySKU will be the replacement for the **GetMailingFees** method. **GetMailingFees** is being deprecated. If you use **GetMailingFees**, then you need to learn how to update your product to use **GetPriceBySKU**.

```
public class SKURequest
{
        public SKURequest();
        public IDCard IDCard { get; }
        public string SKU { get; set; }
        public DateTime ShippingDateTime { get; set; }
```

}

IDCard – Not required field

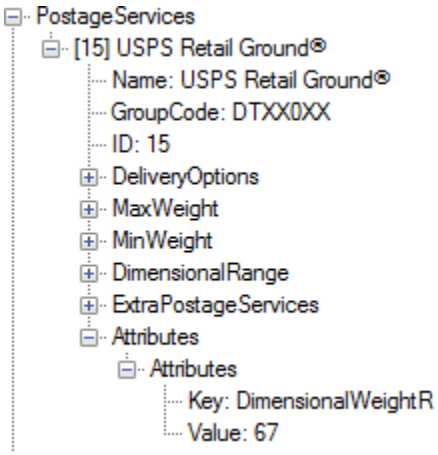
- **SKU Definition**
  - 15 Digit Max, 3 Digit Minimum
  - % - Wildcard represent any character
  - Each digit in the SKU corresponds to a product/service
  - Ex: ICCN%%X%%%%%%%%

BNS 1364 – Jan 2020 PC – Add Dimensional Weight to USPS Retail Ground

USPS Retail Ground is now using dimensional weighting to all zones. USPS Retail Ground Parcels that exceed one cubic foot (1,728 cubic inches) are charged based on the actual weight or the dimensional weight, whichever is greater, in all zones (Local, 1-9). The dimensional weight divisor will be 166 for all zones. Oversize pricing remains for USPS Retail Ground parcels (for parcels that measure in combined length and girth more than 108 inches but not more than 130 inches, use the oversized price, regardless of weight, based on the applicable zone.) Balloon rates have been removed.

LOR is not impacted.

You can determine if pricing was determined by dimensional weighting by checking the DimensionalWeightR key in the Attributes node as shown below:



Remove Price Engine Hosted Service Commitments functionality

The price engine is removing its own service commitment functional. It was a backup capability used if SDC was not available. We will rely on SDC solely for this functionality moving forward. The price engine will report estimated delivery dates as ranges if SDC is not available. The following table specifies what will be reported for each mail service:

Mail Service	Estimated Delivery times reported when SDC is not available
PM	1 to 3 Days

FCM	1 to 3 Days
Package Services	2 to 8 Days
Standard Mail	2 to 8 Days
Periodicals	2 to 8 Days

D-43362 - Country Information does not show PMI when the Country is Canada

This corrects a current bug in production where PMI does not show for Canada. After this release PMI will be available for Canada.

Deprecated Method

The method **GetMailingFees** will be deprecated and no longer updated. As stated above it is highly recommended current users of this call switch to **GetPriceBySKU**.

Changes to the Database Structure

New databases are created to support domestic and international logic and prices. These databases are named USPS_DOM_2020_01 and USPS_INTL_2020_01 respectively. There is now only one pricing table to represent SKUs.

Updated version number and sign all DLLs

All the libraries have been update to version 11.8.0.0 and re-signed.

Updated databases

New databases have been created for this release: USPS_DOM_2020_01 and USPS_INTL_2020_01 for domestic and international respectively. With SKU Pricing the pricing tables have been replace by a single pricing table this is SKU based.

Updates required for 2019_06 databases

There are two scripts that must be executed against the domestic and international 2019_06 databases. They are contained in the 2019_06 folders of their respective databases.

Domestic and international require the "Add Cremented Remains.sql". Domestic also requires "B-374569.sql" to support the new Service Commitments feature.

Impact on Existing Applications

You will have to rebuild your applications.

Instructions

1. Copy the DLLs
2. Restore the databases (SQL Server 2016 backups). The database backups are <u>not</u> included and can be downloaded separately. Note: the SQL script files have been included in the package for those that cannot restore the SQL Server 2016 backups. SQL Scripts should be executed in the order shown below.

Contents

Description	File
Folder	Database
Folder	Domestic
Database	USPS_DOM_2020_01
SQL Script	BNS 1314 - SKU Pricing - Create Prices Table.sql
SQL Script	BNS 1314 - SKU Pricing - Drop Price Tables.sql
SQL Script	BNS 1314 - SKU Pricing - Populate Prices.sql
SQL Script	BNS 1314 - SKU Pricing - Update Tables to SKUs.sql
SQL Script	BNS 1349 - Update Holidays for 2020.sql
SQL Script	BNS 1364 - Add Dim WT To USPS Retail Ground.sql
Release 2	
SQL Script	B-374569.sql
SQL Script	B-374569-DropOldTables.sql
SQL Script	Update USPS Retail Ground for Oversize.sql
Release 3	
SQL Script	Add Cremented Remains.sql
SQL Script	B-383655 Update CacheAge.sql
SQL Script	B-390583 - Change Services to Return 2 Decimal Places Instead of 5 for Prices.sql
SQL Script	BNS 1334 - Premium Data Retention.sql
SQL Script	Cleanup SKUs.sql
SQL Script	CreateClient_Call_Tag_019R4.sql
SQL Script	CreateClient_CNS_008B3.sql
SQL Script	CreateClient_CNS_008R3.sql
SQL Script	CreateClient_CNSB_eVS_009B6.sql
SQL Script	CreateClient_CNSB_eVS_009B8.sql
SQL Script	CreateClient_CNSB_eVS_009P6.sql
SQL Script	CreateClient_CNSB_eVS_009P8.sql
SQL Script	CreateClient_CNSB_Meter_009B5.sql
SQL Script	CreateClient_CNSB_Retail_Stamps_009R4.sql
SQL Script	CreateClient_EASRv2_015B4.sql
SQL Script	CreateClient_EASRv2_015P4.sql
SQL Script	CreateClient_EASRv2_015R4.sql
SQL Script	CreateClient_EDDMR_028R6.sql
SQL Script	CreateClient_eVS_011B6.sql
SQL Script	CreateClient_eVS_011B8.sql
SQL Script	CreateClient_eVS_011P6.sql
SQL Script	CreateClient_eVS_011P8.sql
SQL Script	CreateClient_eVS_025B6.sql
SQL Script	CreateClient_eVS_025B8.sql
SQL Script	CreateClient_eVS_025P6.sql
SQL Script	CreateClient_eVS_025P8.sql
SQL Script	CreateClient_MetroPost_016R4.sql

SQL Script	CreateClient_Mobile_023C4.sql
SQL Script	CreateClient_MRS_017B4.sql
SQL Script	CreateClient_MRS_017R4.sql
SQL Script	CreateClient_PASS_012R4.sql
SQL Script	CreateClient_PC_Postage_007B7.sql
SQL Script	CreateClient_PFSC_018B6.sql
SQL Script	CreateClient_PI_020B4.sql
SQL Script	CreateClient_PI_020R4.sql
SQL Script	CreateClient_PriceCalc_014C4.sql
SQL Script	CreateClient_PriceCalc_014R4.sql
SQL Script	CreateClient_PriceCalc_014X0.sql
SQL Script	CreateClient_RRAM_021R4.sql
SQL Script	CreateClient_SBP_022B6.sql
SQL Script	CreateClient_SBP_022P6.sql
SQL Script	CreateClient_SBP_022R6.sql
SQL Script	CreateClient_WebTools_004B4.sql
SQL Script	CreateClient_WebTools_004P4.sql
SQL Script	CreateClient_WebTools_004R4.sql
SQL Script	D-45501 - GetServicesWithPricing Returns 3 Postage Prices.sql
SQL Script	D-45719 - PM Regional Rate Boxes Prices are Incorrect.sql
SQL Script	D-46024 - Domestic PM APO Flat Rate Box Price Incorrect.sql
SQL Script	D-46038 - EDDM Flats Returns 0.00 over 4 oz.sql
SQL Script	D-46042 - Dom Parcel Return Svc Machinable Balloon & Oversized Pricing.sql
SQL Script	D-46220 - Incorrect FCM Metered Letter Price.sql
SQL Script	D-46329 - Bulk Insurance Not Returning a Price.sql
SQL Script	Prices.sql
SQL Script	2019_06\ Add Cremented Remains.sql
SQL Script	2019_06\ B-374569.sql
SQL Script	Undo D-45398.sql
SQL Script	D-46374 - Comm BPM Decimal Precision.sql
Folder	International
Database	USPS_INTL_2020_01
SQL Script	BNS 1314 - SKU Pricing - Create Prices Table.sql
SQL Script	BNS 1314 - SKU Pricing - Drop Price Tables.sql
SQL Script	BNS 1314 - SKU Pricing - Populate Prices.sql
SQL Script	BNS 1314 - SKU Pricing - Update Tables to SKUs.sql
SQL Script	BNS-1309 - E-USPS INTL Country Changes.sql
Release 3	
SQL Script	Add Cremented Remains.sql

SQL Script	B-390583 - Change Services to Return 2 Decimal Places Instead of 5 for Prices.sql
SQL Script	BNS 1309 Create South Sudan.sql
SQL Script	D-46010 - PostCalc FCMI Postcards No Charge.sql
SQL Script	D-46016 - Canada PMEI Comm Plus Zone 2 No Price.sql
SQL Script	D-46017 - IPA Parcels No Prices.sql
SQL Script	Prices.sql
SQL Script	D- 46090-Canada PMI DVD Flat Rate Box Price .sql
SQL Script	2019_06\ Add Cremented Remains.sql
Folder	DLL
Rate Engine Framework	RateEngine_Framework.dll
Business Framework	RateEngine_Business.dll
Domestic Business Rate Engine	RateEngine_DomBusiness.dll
International Business Rate Engine	RateEngine_IntlBusiness.dll
Service Delivery Extensions	ServiceDeliveryExtensions.dll
Customs Forms Engine	CustomsFormsEngine.dll
Folder	Documentation
Design Model	Pricing Engine.pdf
Release Notes	USPS Pricing Engine SDK 11_8_0_0.pdf

Reported Defects and Change Request

Title	Status
BNS 1334 - Jan 2020 PC Enhanced Tracking	Completed
D-45398, D-45475 - BNS 1314 - Jan 2020 PC - Signature Confirmation price amount 0.00	Completed
D-45501 - BNS 1314 - Jan 2020 PC - GetServicesWithPricing Returns THREE PostagePrices: O, R, and R	Completed
D-45719 - PM Regional Rate Boxes Prices are Incorrect.sql	Completed
D-45937 - BNS 1314 - Jan 2020 PC - Extra Service Error (Certificate of Mailing Bulk)	Completed
D-45935 - BNS 1314 - Jan 2020 PC - FCMI Flats Return No Charge	Completed
D-46010 - BNS 1314 - Jan 2020 PC - PostCalc FCMI Postcards No Charge	Completed
D-46011 - BNS 1314 - Jan 2020 PC - No PMI Flat Rate Boxes for Canada	Completed
D-46012 - BNS 1314 - Jan 2020 PC - 0.5 lb Returns 1 lb GXG Price	Completed
D-46015 - BNS 1314 - Jan 2020 PC - PMEI .5 lb Returns 1 lb Price	Completed
D-46016 - BNS 1314 - Jan 2020 PC - Canada PMEI Comm Plus Zone 2 No Price	Completed
D-46017 - BNS 1314 - Jan 2020 PC - IPA Parcels No Prices	Completed

D-46024 - BNS 1314 - Jan 2020 PC - Domestic PM APO Flat Rate Box Price Incorrect	Completed
D-46026 - BNS 1314 - Jan 2020 PC - Dom FCM-Letters, Questionable Nonautomation Prices	Completed
D-46038 - BNS 1314 - Jan 2020 PC - EDDM Flats Returns 0.00 over 4 oz.	Completed
D-46042 - BNS 1314 - Jan 2020 PC - Dom Parcel Return Svc Machinable Balloon & Oversized Pricing	Completed
D-46089 - BNS 1314 - Jan 2020 PC - Intl Insurance Not Returning Initial Price	Completed
D-46090 - BNS 1314 - Jan 2020 PC - Canada PMI DVD Flat Rate Box Price	Completed
D-46220 - BNS 1314 - Jan 2020 PC - Incorrect FCM Metered Letter Price	Completed
D-46232 - BNS 1314 - Jan 2020 PC - ECOMPRO DVD Flat Rate Box	Completed
D-46238 - BNS 1314 - Jan 2020 PC - Canada ECOMPRO PMI Zone 2 Prices	Completed
D-46243 - BNS 1314 - Jan 2020 PC - Standardize Solution for Intl Insurance Not Returning Initial Price	Completed
D-46329 - BNS 1314 - Jan 2020 PC - Bulk Insurance Not Returning a Price	Completed
D-46374 - BNS 1314 - Jan 2020 PC - Dom Comm BPM Decimal Precision > 2	Completed

BNS 1334 - Jan 2020 PC Enhanced Tracking

Two new Extra Services have been added to support Enhance Tracking.

ID	Description
181	Scan Retention
182	Scan + Signature Retention

This 2 Extra Services work similar to variable Extra Service where the number of months will be specified as an Additional Input Value with the tag of “rtp”. The following table defines the valid values:

Extra Service	Description	Value
Scan Retention	6 Months	0.5
	1 Year	1
	3 Years	3
	5 Years	5
	7 Years	7
	10 Years	10
Scan + Signature Retention	3 Years	3
	5 Years	5
	7 Years	7
	10 Years	10

The following error message will be returned:

Extra Service	Error Code	Message
Scan Retention	50082	Warning - The Retention Period can only be 0.5, 1, 3, 5, 7 or 10
Scan + Signature Retention	50082	Warning - The Retention Period can only be 3, 5, 7 or 10

BNS 1314 - Jan 2020 PC - Signature Confirmation price amount 0.00

The SKUs were incorrect for flat rate products.

BNS 1314 - Jan 2020 PC - GetServicesWithPricing Returns THREE PostagePrices: O, R, and R

The SKUs have been corrected.

BNS 1314 - Jan 2020 PC - PM Regional Rate Box A & B Prices for Incorrect Zone

The SKUs have been corrected.

BNS 1314 - Jan 2020 PC - Change Services to Return 2 Decimal Places Instead of 5 for Prices

Code change to reduce decimal places.

D-45398, D-45475 - BNS 1314 - Jan 2020 PC - Signature Confirmation price amount 0.00

Updated the SKU.

D-45501 - BNS 1314 - Jan 2020 PC - GetServicesWithPricing Returns THREE PostagePrices: O, R, and R

Updated the SKU.

D-45719 - BNS 1314 - Jan 2020 PC - PM Regional Rate Box A & B Prices for Incorrect Zone

Updated the SKU.

D-45935 - BNS 1314 - Jan 2020 PC - FCMI Flats Return No Charge

Corrected SKU-based pricing logic.

D-45937 - BNS 1314 - Jan 2020 PC - Extra Service Error

Corrected SQL parameters in code.

D-46010 - BNS 1314 - Jan 2020 PC - PostCalc FCMI Postcards No Charge

Database change to the SKU for the calculator element from group 2 to group 3.

D-46011 - BNS 1314 - Jan 2020 PC - No PMI Flat Rate Boxes for Canada

Corrected code. This issues also effected PMI flat rate envelopes.

D-46012 - BNS 1314 - Jan 2020 PC - 0.5 lb Returns 1 lb GXG Price

Updated code to allow .5 as a weight break.

D-46015 - BNS 1314 - Jan 2020 PC - PMEI .5 lb Returns 1 lb Price

Updated code to allow .5 lbs.

D-46016 - BNS 1314 - Jan 2020 PC - Canada PMEI Comm Plus Zone 2 No Price

Corrected SKU logic.

D-46017 - BNS 1314 - Jan 2020 PC - IPA Parcels No Prices

Updated SKU in the Calculator Elements table from 40 lbs. to 44 lbs.

D-46024 - BNS 1314 - Jan 2020 PC - Domestic PM APO Flat Rate Box Price Incorrect

Update SKUs in the database to the correct value.

D-46026 - BNS 1314 - Jan 2020 PC - Dom FCM-Letters, Questionable Nonautomation Prices

Added a conditional to the first-class mail class to check if the SKU based pricing is being used. If it is don't add the non-machinable surcharge.

D-46038 - BNS 1314 - Jan 2020 PC - EDDM Flats Returns 0.00 over 4 oz.

Corrected weight limit from 16 oz. to less than 16 oz.

D-46042 - BNS 1314 - Jan 2020 PC - Dom Parcel Return Svc Machinable Balloon & Oversized Pricing

Corrected the 'DS' keys in the database.

D-46089 - BNS 1314 - Jan 2020 PC - Intl Insurance Not Returning Initial Price

Updated code to properly set the initial price when the declared value is zero.

D-46090 - BNS 1314 - Jan 2020 PC - Canada PMI DVD Flat Rate Box Price

Updated the SKU.

D-46220 - BNS 1314 - Jan 2020 PC - Incorrect FCM Metered Letter Price

Updated the SKU.

D-46232 - BNS 1314 - Jan 2020 PC - ECOMPRO DVD Flat Rate Box

Updated the SKU.

D-46238 - BNS 1314 - Jan 2020 PC - Canada ECOMPRO PMI Zone 2 Prices

SQL to add in zone 2 SKUs.

D-46243 - BNS 1314 - Jan 2020 PC - Standardize Solution for Intl Insurance Not Returning Initial Price

Added logic to handle insurances.

D-46329 - BNS 1314 - Jan 2020 PC - Bulk Insurance Not Returning a Price

Updated the SKU.

D-46374 - BNS 1314 - Jan 2020 PC - Dom Comm BPM Decimal Precision > 2

Created SQL script to set the display format to two decimal places.